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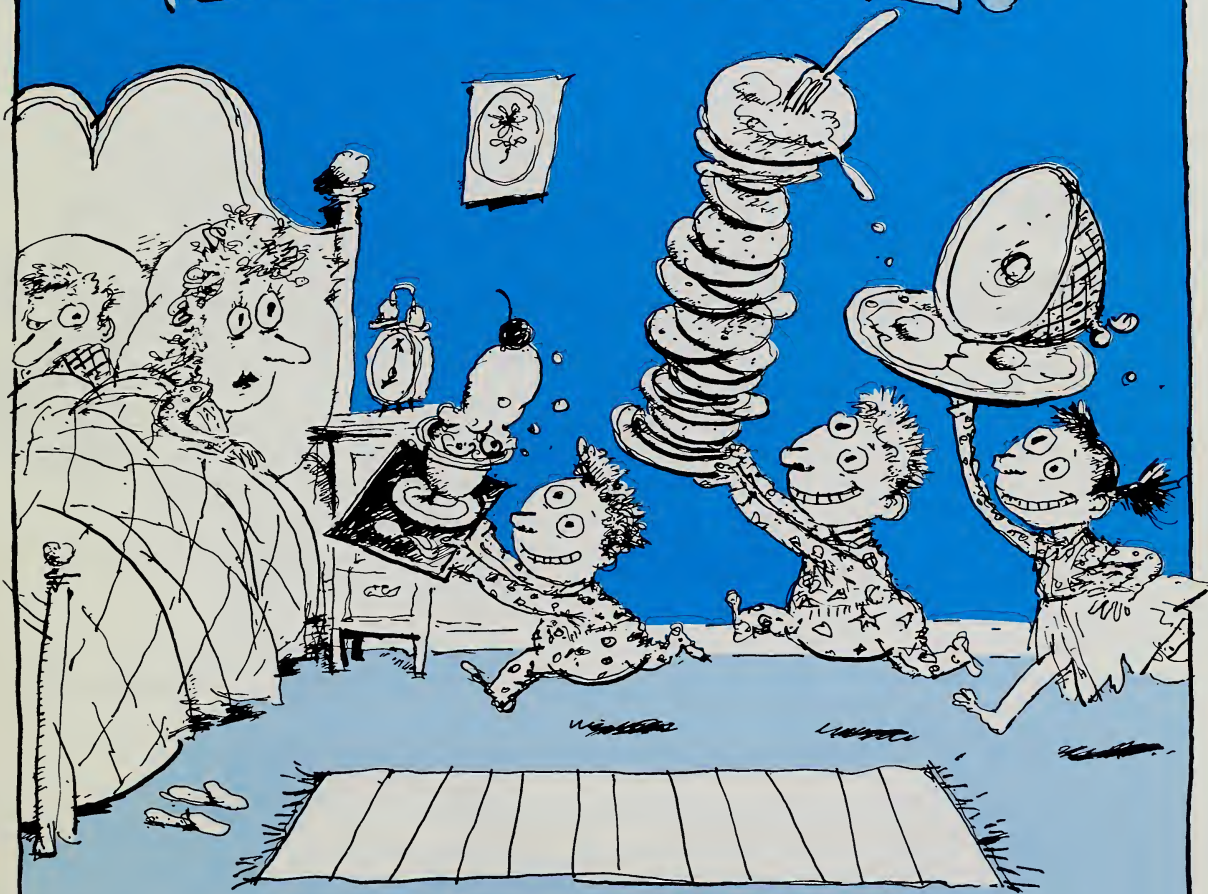
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FOOD NEWS

FOR CONSUMERS United States Department of Agriculture Volume 6 Number 1 Spring 1989

SURPRISE!



IT'S MOTHER'S DAY

Story, p.8

Hurry-Up
Microwave Tips

Rx for Prevention of
Foodborne Illness

New Packaging
Explained

FOOD NEWS

FOR CONSUMERS

Spring 1989
Vol. 6, No. 1

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Ask the Consumer Advisor



Dear Consumer Advisor:

Our local newspaper recently mentioned "1989 National Consumers Week." Does USDA participate in these activities?

Dear Reader:

Yes, we do! For the past several years, many USDA agencies have sponsored educational programs to acknowledge the importance of consumers to agriculture. These events have ranged from educational seminars for USDA employees to Cooperative Extension Service programs for citizens throughout the nation.

The April 23-29, 1989 National Consumers Week slogan, "Consumers Open Markets," salutes the leadership role consumers play in our nation's economy. The White House Office of Consumer Affairs sponsors the event each year.

The 1989 slogan should encourage the participation of many types of organizations. Actually, anyone who deals with consumers — businesses, government agencies, schools, libraries — and consumers themselves can take time to recognize the importance of consumers and organize activities to educate others.

An outstanding example of the USDA's involvement in consumer education is the Meat and Poultry Hotline (1-800-535-4555) which answers thousands of consumer calls each year. Consumers can talk directly with home economists who are trained to answer calls regarding the safe handling, preparation, and storage of meat and poultry.

Locally, Cooperative Extension offices in each county can help you to get more involved in National Consumers Week activities in your own community. Look in the telephone book under government offices for your county office.

We would be delighted to hear from you regarding questions or ideas for your organization to become more involved with "National Consumers Week 1989."

Sincerely,

ANN COLLINS CHADWICK, DIRECTOR
Office of the Consumer Advisor
Phone: (1-202) 382-9681

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Hotline Calling

Quick, Safe Microwave Techniques

The microwave — it's developed into a tremendous asset for our "hurry-up" lives. Over 75 percent of all American households now own one. It thaws food, cooks or reheats in minutes, even seconds.

But like any other tool, certain precautions must be followed to ensure its safe use. Basic food safety rules don't change with a shorter cooking time. In fact, more care must be exercised when using the microwave.

For all its good points, the microwave often cooks food unevenly. This creates hot and cold spots in the item being cooked. Care must be taken to even out the cooking. Further, since the oven works so quickly, people tend to over-cook at first, resulting in ruin.

To help you "hurry up" in the kitchen safely and successfully, here are answers to some often-asked microwave questions we hear on USDA's Meat and Poultry Hotline.

Q. After thawing a casserole in the microwave, I completely forgot about it for several hours. Will it be safe to eat if I reheat it?

A. You're not alone. *Many* people forget about food that's been in the microwave for some time. Perhaps it's because they can't see the food inside the oven.

If the casserole was in your oven over 2 hours, including thawing time, we can't recommend you use it.

Perishable food shouldn't be held at room temperature over 2 hours since bacteria grow quickly at warm temperatures. Also, thawing food in the microwave can raise its temperature even higher to a point where bacteria flourish even faster.

While cooking does kill most bacteria, there are food poisoners that aren't destroyed by ordinary cooking. And these are just the type likely to be in a food, like a casserole, that's had a lot of handling.

Q. Every time I cook meat or poultry in my microwave, the meat gets dry and tough. But I'm

afraid that if I cook these foods for any less time, I'll make my family sick. Solution?

A. We understand your dilemma. Since it's possible to have "cold spot" areas in microwaved foods, it's important to cook them thoroughly.

But dry, tough meat probably means you cooked it too long. Try this approach for safe, tender meat and poultry:

1. Arrange pieces uniformly in a covered dish. Under the cover, steam helps kill bacteria and ensure uniform heating. Either plastic wrap or a glass cover works well.

2. Move the food inside the dish several times during the cooking. If you don't have a turntable, turn the entire dish during cooking too.

3. Use a temperature probe or meat thermometer to verify the food has reached a safe temperature — 160° F for red meat, 180° F for poultry.

4. Observe the standing time given in the recipe. It's necessary to complete the cooking process.

Q. I have a big package of chicken parts in the freezer that I won't be able to use all at once. Can I thaw them in the microwave and refreeze the unused portion?

A. We don't recommend refreezing meats that have been thawed in a microwave. When you thaw foods in the microwave, you're actually subjecting them to a very low cooking temperature. Some areas of the food may even begin to cook.

Our advice is to cook food thawed in the microwave immediately after thawing.

In this case, why not thaw the chicken parts in the refrigerator? Refreeze what you don't use.

Q. With grilling season coming up, I'm planning to do a lot of cooking ahead for easy summer meals. I thought I'd grill a variety of foods like ribs and hamburgers until partially done, then freeze them for final cooking later in the microwave. Isn't this a clever idea?

A. Planning ahead can be a big help, and the microwave has made life easier for the cook. However, partial cooking can be dangerous if the food doesn't get hot enough to kill bacteria that may be in the raw meat.

Cooking ahead is fine, but raw foods should be cooked completely during the *first* cooking. Meat and poultry should reach an internal temperature of at least 160° or 180° F respectively, juices should run clear, and meat should not be pink.

What about this? Grill your food until done, then store it for quick freezing in small, shallow containers or freezer bags.

When you're ready to serve it, thaw in the refrigerator before reheating. Or microwave-thaw for immediate microwave cooking.

For best results when reheating, place grilled items on a microwave roasting rack, cover with wax paper, and use a medium-high setting.

Q. Why do you hear that baby foods shouldn't be heated in the microwave? Are the microwaves themselves dangerous?

USDA's Meat and Poultry Hotline, 1-800-535-4555, currently receives some 4,800 consumer calls each month.

A. There is no scientific reason why baby food, formula or milk can't be heated in the microwave. But there is some concern that the food might get too hot in some areas, due to uneven heating.

Microwaves are simply radio waves which cease to exist once the oven is turned off. The quality of microwaved food is the same as food warmed by any other method.

Take the same precautions with microwaved food that you would with any warmed baby food. Stir foods and shake bottles before testing them for an appropriate lukewarm temperature. Babies can't tolerate foods as hot as adults can.

To heat a baby bottle in the microwave, remove the cap and nipple. Watch the time. Plastic bag liners may burst if heated too long.

When using food from a jar, remove a portion and heat in a dish.

Feed baby from a dish too. Bacteria from the baby's saliva can contaminate food in a jar as you dip the spoon back in every time. That makes the remaining food in the jar unsafe to refrigerate for later use.

Q. I froze leftover stew in a heavy freezer storage bag. Can I just leave it in that bag to thaw and reheat it in the microwave?

A. No. Transfer the stew to a microwaveable utensil for reheating. While microwaves will not melt plastic bags, cooked foods reach temperatures which can.

Generally it's not safe to cook or reheat foods in margarine tubs, frozen whipped topping bowls or other miscellaneous containers.

The material in these items has been approved for use only in storing food, not for cooking it in a microwave. When heated, chemicals in these containers may migrate into food.

— Staff writers — Susan Templin, Marilyn Johnston, CiCi Williamson



SPRING FORWARD WITH FOOD SAFETY

by Anne McGuigan

Springing forward with festive foods is a time-honored tradition, and today consumers can also “fall back” on USDA’s Meat and Poultry Hotline for food safety and handling advice.

Here then are answers to some perennial Spring food questions our Hotline staff receives.

Q. Where does the tradition of ham for Easter come from? What’s the best way to mail a ham?

A. The National Live Stock and Meat Board says having ham for Easter may have started up near the Baltic Sea.

Before winter set in, meat was buried in the sandy shore. The cold ground and sea salt preserved the meat, which was later dug up to celebrate the coming of Spring.

A canned shelf-stable ham can easily be mailed, and country or dry-cured hams also mail well. Pack the ham in a sturdy box with styrofoam pieces so it doesn’t jounce around. Wrap the carton in brown paper, and use strapping tape to secure it.

Uncut and stored in a cool, well-ventilated place, country ham should keep at top quality up to a year. Once sections have

been cut off, refrigerate and use the ham in 3-5 months. If you’ve rehydrated and cooked sections, use any leftovers in 3-5 days.

Q. What about dyeing and hiding Easter eggs? How long do hardcooked eggs last?

A. The egg dyes you buy in the market are approved as safe by the Food and Drug Administration. Still, boiling an egg removes the shell’s natural protective covering and opens the pores. Bacteria can enter the egg during subsequent handling.

So our Hotline staff suggests you keep the real Easter eggs refrigerated until the kids want to eat them. Hide bright plastic eggs for the hunt.

Hardcooked eggs with shells intact will last 10-12 days in the refrigerator. Any that crack should be used the same day.

Q. How far in advance can I prepare the main meat dish for a Seder meal? How do I keep it warm until serving?

A. Don’t invite the “cafeteria germ” (*Clostridium perfringens*) to your dinner by holding your cooked meat dish at less than 140° F. If greeting guests and attending the religious part of the ceremony will keep you out of the kitchen, cook your meat dish ahead. Then reheat it in the

microwave, or place it in a warming oven (200° F) for an hour or so before serving. Wrapping the meat in foil and reheating it in its own gravy will keep it moist.

Q. I’ve read that you can do a lovely buffet with some homemade items and some high-quality new deli entrees. Are these new deli foods really fresh? How long will they last?

A. “Fresh,” unfortunately, is one of those words that presently lacks a hard definition. On a food label, “fresh” can mean recently picked or prepared. But it can also mean just *not frozen* or *not processed*.

A commercial food marked “fresh” might also contain special preservatives or be specially packaged to extend its useful life.

You should ask the deli manager when and where the food you’re buying was prepared. Check too for “use by” or “sell by” dates to make sure it’s still at top quality.

In any case, keep deli food refrigerated and use it in 3-5 days.

Should anything have an “off” odor or an unusual color or texture when you open or reheat it, return it to the store. **DO NOT TASTE** suspect food — it’s a dangerous practice.

New Packaging

What Consumers Need to Know

by Linda Swacina

While the new food packaging techniques offer a great variety in convenience foods, many shoppers are finding the whole thing confusing.

What's the best way to handle these new products? First, read the label. That way you know exactly how to store and serve a particular product.

Second, take a look at these definitions of the new product categories. We've also included handling tips for each type of product.

Fresh Prepared, Refrigerated Foods. As the designation implies, these foods must be refrigerated. What is different, though, is that the preparation of many of these products allows them to be refrigerated for longer periods than consumers are used to — sometimes up to 4 weeks.

The longer storage times are due to vacuum packaging or **modified atmosphere packaging (MAP)**, where oxygen in the package is mixed with a gas (normally carbon dioxide and/or nitrogen) that slows spoilage, discoloration and the growth of harmful bacteria.

You may already have seen some of these products — the vacuum-packed meat, for instance, that looks somewhat maroon because the oxygen has been removed. The meat regains a bright red color when the package is opened to air.

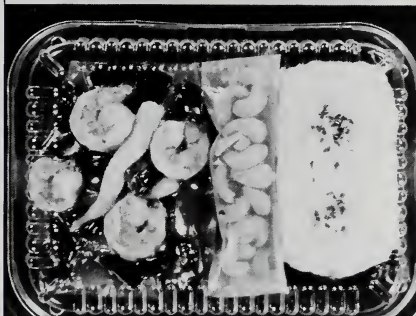
Products in MAP packaging now run the gamut from raw

pork tenderloin to fully cooked roast chicken, tuna spreads and tortellini. Some require additional cooking or heating before serving. Always check the label.

Sous vide. It's hard to imagine boiling a plastic bag containing poached salmon in dill sauce and having your dinner taste fresh, but that's what the sous vide process is designed to do.

Literally, "sous vide" is French

A Look at the New Products



A sous vide delicacy.



Shelf-stable soups and stews.

for "under vacuum." Fresh raw ingredients or partially-cooked ingredients are vacuum-sealed in a plastic pouch. The pouch is heat-processed, then quick-chilled and distributed under refrigeration.

Sous vide products *must* be kept refrigerated. Like other vacuum-packed products, sous vide products will last 3 to 4 weeks refrigerated. To serve, simply heat the bag in boiling water.

Shelf-stable products.

This new packaging uses plastic containers instead of metal cans or glass jars. So, instead of opening a can of soup, pouring it into a pan and heating it, now you can pull a plastic soup package off the shelf and pop it into the microwave.

The labels on these plastic containers don't call for refrigeration. And, assuming there are no breaks or tears in the package, these products should maintain top quality for over a year.

So what's a confused consumer to do? According to Susan Templin, the home economist in charge of USDA's Meat and Poultry Hotline:

1. Read the label. Handling and cooking procedures may be different for every product, and only proper handling can ensure product safety.

2. Look for a time-temperature indicator. Some of the new products have one. It's usually a strip or dot that changes color if the product is past its expiration date or has been held at an improper, above-refrigeration temperature.

3. Check the "use by" or "sell by" date stamped on the package. You take a chance when you use *old* products.

How Kids Can Microwave a Mother's Day Brunch



by CiCi Williamson

If your surprise Mother's Day brunch has sometimes been a bit *too* amazing, get things back to normal this year by teaching the children the proper use of the microwave.

It's a good method because cooking and cleanup are so easy. Children can turn out quality food too. And what better time for them to do it than May 14?

Children as young as six can begin cooking with a microwave oven. To prepare a Mother's Day brunch, however, they may need a little help from Dad, an older sibling or an adult friend.

On Saturday, take your helper aside and suggest this person take the kids to the grocery. They can help check recipes to see what ingredients they'll need.

Crazy about Eggs Florentine when you go out to brunch? Well, put in your request for it. All they need to buy for our Green Eggs recipe are eggs, English muffins and a frozen pouch of creamed spinach. Remind them to get food into the refrigerator as soon as they get home. **It's not safe to leave perishable food out over two hours.**

If pancakes spell happiness for you, put frozen microwave pancakes on the grocery list.

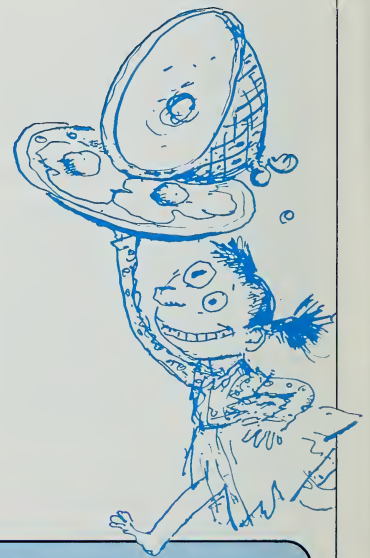
Children can make them turn out great. A healthful alternative to drowning them in syrup is Dutch Applesauce pancakes. It's simple to stir cinnamon into applesauce and microwave it as a satisfying, spicy topping.

Have you ever tried Bananas Foster, a New Orleans concoction of bananas sauteed in butter and flamed rum? Our Nutty Bananas, made with peanut butter, orange juice and brown sugar, are just as luscious without the possibility of the fire department attending your brunch.

If peanut butter isn't on your diet, you could request a baked pear or grapefruit topped with a cherry.

Bacon is one of the best foods to microwave. Not only does

more of the fat cook out, but also dangerous chemicals do not form as in skillet cooking. But before children handle bacon—or any food—be sure they **wash their hands**. This is critical because hands carry so many germs.



GREEN EGGS (SIMPLE EGGS FLORENTINE)

- 4 eggs
- 1 (9-ounce) pouch frozen creamed spinach
- 2 English muffins, toasted

Serves 4
211 calories per serving

Lightly butter inside of 4 (6-ounce) custard cups. Crack an egg into each one. Use a fork to pierce egg yolk two times. Cover each cup tightly with plastic wrap.

Arrange cups in a circle in oven. Microwave on medium power 6 to 8 minutes, or until egg is thoroughly cooked. Turn each cup halfway around after 4 minutes. Set aside.

Use scissors to cut large "X" through bottom layer of frozen vegetable pouch. Place pouch cut-side down in a small microwave dish. Microwave on high 5 to 6 minutes. Lift pouch so cooked contents empty into dish.

Place an egg on each toasted muffin half. Spoon creamed spinach on top.

And while we're discussing food safety, **keep food refrigerated** until time to cook it, because bacteria can multiply rapidly at room temperature! Then **cook foods thoroughly** to kill bacteria and **refrigerate leftovers** promptly. Previously cooked food is highly vulnerable to spoilage and the development of food poisoning.

On Mother's Day, your helper should supervise the young chefs. This person can brew a hot beverage and help handle

the eggs while the youngsters do most of the food preparation in the microwave.

Restraint is hard, it's true, but before you turn to the recipes to make your important brunch selection, review this short section on microwave safety.



package directions. Spoon applesauce over pancakes.

DUTCH APPLESAUCE PANCAKES

- 1 cup applesauce
- ½ teaspoon ground cinnamon
- 4 frozen microwave pancakes

Serves 2
220 calories per serving, approx.

Put applesauce and cinnamon in a glass measuring cup. Microwave on high 30 seconds, stir. Microwave on high 30 seconds, or until hot.

Microwave pancakes according to

NUTTY BANANAS

- 2 tablespoons chunky peanut butter
- 1 tablespoon orange juice
- 2 tablespoons brown sugar
- 2 bananas, peeled

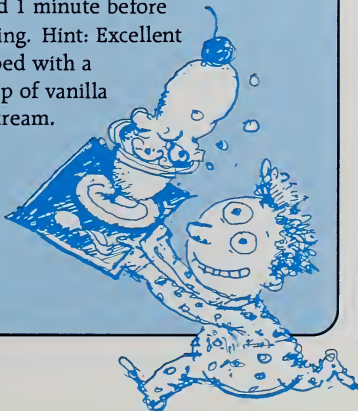
Serves 2
257 calories per "saucy" banana

Put peanut butter, orange juice and brown sugar in a 9-inch pie plate. Mix with a fork. Microwave on high 1 minute. Mix again with fork.

Cut bananas in half and cut halves

into 2 lengthwise pieces. Roll them in peanut butter mixture and arrange with cut sides down in pie plate.

Microwave on high 1 minute. Let stand 1 minute before serving. Hint: Excellent topped with a scoop of vanilla ice cream.



These are things a child should know both for self-protection and to keep your oven intact:

1. How to program the oven correctly — for 10 seconds, for example, rather than 10 minutes. Dad or older sibling can cover correct programming.
2. Never turn on an empty oven.
3. Only use microwave-safe cookware. It's best to mark those utensils and keep them in a certain place.
4. *Don't* microwave food in empty margarine tubs, whipped topping bowls or other food containers. They are made to store cold food and NOT for cooking.
5. You need pot holders to remove things from the oven. Microwavable dishes get hot from the cooked food.
6. Pull plastic wrap off foods so steam escapes away from hands and face, and open popcorn bags carefully. Steam can burn.
7. Cool foods a minute or two before eating so they don't burn the mouth.



MICROWAVE BACON

35 calories per strip

Lay strips of bacon on microwave bacon rack. Cover with paper towel. Microwave on high 1 minute per strip of bacon. Use tongs or fork to lift onto breakfast plates.

Rx for Food Safety

How physicians, nurses, dieticians and nutritionists can help in the fight against foodborne illness

by Mary Ann Parmley

Even a cursory look at the statistics shows that foodborne illness has become a major problem.

Dr. Stuart Nightingale, associate commissioner for health affairs with the Food and Drug Administration, wrote recently in *American Family Physician* that from 30 to 50 percent of all diarrhea cases in the U.S. are of foodborne origin. A low estimate, he noted, is that 1 in 10 Americans will contract foodborne illness resulting in at least a minor case of diarrhea in the coming year.

Further, foodborne illness can be more than just the traditional acute, self-limited gastrointestinal episode. Long-term side-effects can include arthritis and other chronic problems. Deaths are possible, too — especially among the elderly, in fetuses, the very young and in immune-compromised individuals.

What does this mean for health professionals? It means you should consider food as a potential disease vector not only in classic "cluster illness," where everyone gets sick after a church dinner, but in other situations as well.

Physicians and Nurse Practitioners. Dr. Martin Blaser, in infectious diseases at the Veterans Administration Medical Center in Denver, said, "When taking a history or making a diagnosis, think 'foodborne' whenever you see diarrhea or vomiting of acute onset, hepatitis symptoms or, naturally, the symptoms of botulism."

Secondly, Blaser said, review your incubation times. "Remember, it's roughly 12 hours — 24 at the outside — for staphylococcal infections, 72 hours for salmonella and campylobacter infections and up to 4 weeks for hepatitis."

If it's a reportable illness or if you can link the problem to a local restaurant, market or food service establishment, report the incident to the local health department right away. You don't want anyone else to get sick.

Dr. Charles LeBaron, a virologist at the Centers for Disease Control in Atlanta, asked for help in identifying viral outbreaks. "As patients only shed large numbers of virus for the first 48 hours of illness, take a stool sample in that period so it can be identified with the electron microscope. *Don't freeze* the sample. Freezing destroys viral structures. Refrigerate samples until they're picked up."

Visiting Nurses and Home Health Aides. "Visiting nurses can play a vital role in prevent-

ing foodborne illness in their patients," said nurse Elizabeth Weiss, head of the Iona House Home Care Support program for the elderly, Washington, D.C.

Weiss continued, "The visiting nurse is also a critical link in the training and supervision of home health aides who often actually assist homebound patients with the shopping, cooking and cleaning necessary for proper nutrition and prevention of food poisoning."

Registered Dieticians. "Registered dieticians, particularly administrative dieticians in hospitals and nursing homes, are in the forefront of the struggle against foodborne illness," said Barbara O'Brien, herself a registered dietician who answers consumer calls on USDA's Meat and Poultry Hotline.

"The institutional dietician is often serving a high-risk group — the ill, the elderly — and food safety has to be a top priority," O'Brien said.

Staff training can be a heavy part of that load, she noted, "For example, more than once as a supervisor I've walked into an institutional kitchen and seen 50 pounds of frozen ground beef massed on a work counter.

"You ask what's going on and the response is, 'It's thawing,' *Wrong*. They've forgotten that you shouldn't thaw meat on the counter. It's a bacterial hazard. The accepted method, of course, is to thaw it over time in the re-

frigerator. But that requires pre-planning and that's just the kind of instance where the dietician's guidance is so crucial in running a safe kitchen."

O'Brien continued, "I advise colleagues to get back to basics. Check equipment for the proper temperature controls. Check storage temperatures (USDA recommends 40° F for refrigerator, 0° F for freezer), and holding and point-of-service temperatures (both are 140° F for hot foods). Handwashing can't be stressed enough. You can't be too careful."

Nutritionists. While nutritionists, who may be working privately, in a clinic or with physician referrals, may have less direct contact with food handling, they can still add food safety education to their counseling.

"In helping clients develop recipes for sodium or weight control," said Dr. Georgia Stevens, a USDA consumer affairs specialist, "nutritionists can introduce safe food-handling practices as just another preparation step."

Stevens continued: "People fixing food at home make very basic mistakes. So USDA has developed these Seven Commandments of Food Safety —

1. Wash hands before handling food;
2. Keep it safe, refrigerate;
3. Don't thaw food on the kitchen counter;
4. Wash hands, utensils and surfaces again after contact with raw meat and poultry;
5. Never leave perishable food out over 2 hours;
6. Thoroughly cook raw meat, poultry and fish;
7. Freeze or refrigerate leftovers promptly."

Actually, the same advice should be covered with any patient who's had a foodborne illness. Certainly you'd have an attentive audience.

Summing Up. Foodborne illness is on the rise, and it's presenting itself in new guises — caused, for instance, by pathogens that grow under refrigeration and salmonella in unbroken eggs.

Further complicating matters is what experts are calling a new generation of "uncooks."

USDA's Dr. Stevens said, "Today's consumers often lack the background on food earlier generations had. Their context for the origin of meat and poultry, for instance, is not the farm, but the high-tech environment of the supermarket. They may even assume that raw products, in their tight plastic wrap, are germ-free."

This misconception makes it hard to convince people that food must be handled carefully to avoid foodborne illness.

So, from history taking and prevention in institutional settings through consumer education, health professionals need to pull together to meet the foodborne illness challenge. There is certainly enough work to go around.

PUBLICATIONS TO ORDER

"Contemporary Issues: Diseases with a Food Vector," Douglas L. Archer and Frank E. Young. Single copies free from FDA-Division of Microbiology, Rm. 3832, HFF-230, 200 C St., SW, Wash., D.C. 20204.

Procedures to Investigate Foodborne Illness, International Association of Milk, Food and Environmental Sanitarians, P.O. Box 701, Ames, Iowa 50010, 1-515-232-6699, \$3.50.

The Safe Food Book, Safe Food To Go, Talking About Turkey — USDA

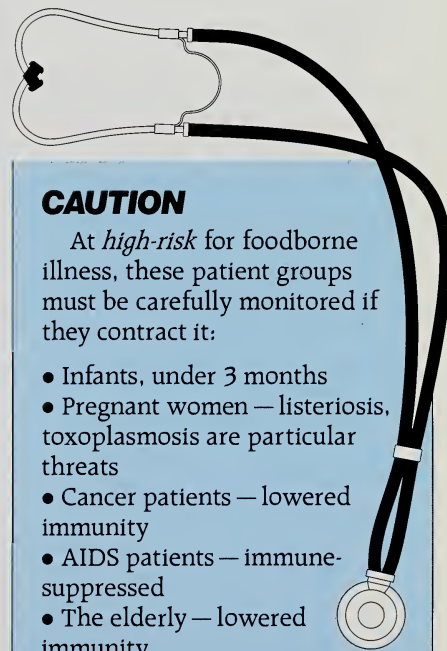
booklets from the Consumer Information Center, Pueblo, Colo., 81009. Single copies FREE.

"When An Older Person Needs Help in the Kitchen" & in LARGE TYPE the "Older Person's Guide to Food Safety" — Reprints from USDA-FSIS Public Awareness, Rm. 1165 South Bldg., Wash., D.C. 20250, 1-202-447-9351. FREE.

INFORMATION HOTLINES

USDA's Meat and Poultry Hotline, food handling advice, 10-4 weekdays, EST, 1-800-535-4555; Washington, D.C. area, 447-3373.

CDC's outbreak line, for difficult diagnoses or community emergencies. Days — 1-404-329-3311, evenings — 1-404-329-2888.



CAUTION

At *high-risk* for foodborne illness, these patient groups must be carefully monitored if they contract it:

- Infants, under 3 months
- Pregnant women — listeriosis, toxoplasmosis are particular threats
- Cancer patients — lowered immunity
- AIDS patients — immune-suppressed
- The elderly — lowered immunity

Patients on antibiotic & antacid therapy have lower resistance

Appendicitis lookalike — *Yersinia enterocolitica* can look like appendicitis, especially in children under 10. Healthy appendixes are often removed in yersiniosis outbreaks.

**Announcing the
WOF-Busters**

When that Salisbury steak in the TV dinner or your reheated meatloaf tastes like *cardboard*, it's probably been "woofed," said USDA chemist John Vercellotti.

This warmed-over flavor (WOF) can occur when uncured meat, poultry or fish is cooked, stored and then reheated. The fat breaks down on reheating, causing the taste change.

Meats cured with nitrites — bacon, ham and lunch meats — don't have this problem.

But now there's hope for uncured meats. Scientists at USDA's Agricultural Research Service in New Orleans, La., have discovered a group of chitin additives that inhibit the dreaded WOF flavor.

Chitin is a surplus material from the shellfish industry, a natural element found in the shells of lobsters, crabs and other shellfish.

Laboratory tests show that chitin inhibits warmed-over flavors for up to 5 days when mixed into ground beef.

"We think chitin will prevent 'woofing' in other meats, poultry and fish too," said Dr. John Vercellotti, lead chemist at the Food Flavor Quality Research laboratory.

"Warmed-over flavor occurs when oxygen in the air breaks down fats in the meat," said USDA chemist A.J. St. Angelo. "But when the chitin derivatives are added, they bind to iron in the meat so that it cannot respond to oxygen from the air.

This slows down the oxidation which causes the WOF flavor."

The additives — still in the experimental stage — can be mixed into meat, rolled over the surface, or sprayed on. They also inhibit warmed-over flavor in frozen foods, baked foods or foods stored at room temperature, Vercellotti explained.

For more information, contact: Dr. John Vercellotti or Dr. A.J. St. Angelo, Food Flavor Quality Research, Southern Regional Research Center, USDA-ARS, New Orleans, La. 70179, 1-504-286-4421.

— Liz Lapping

**Ever Wonder What's In the
Fast Food You Eat?**

We all eat fast food and, increasingly, more of it. Now the U.S. Department of Agriculture can tell you exactly what you're eating at your favorite fast food establishment.

Agriculture Handbook 8, widely recognized as THE nutrition reference on the composition of foods, has a new section on the hamburgers, pizzas, french fries, chicken, tacos and other foods we gobble on-the-run.

The fast foods are included in a new "Section 21." Information



is included for 166 common fast food items. Fast foods, by the way, are defined as "foods that are usually prepared by established routines to serve a maximum number of patrons in minimum time."

Nutrient values are presented for energy (calories), composition (water, protein, carbohydrates, fat, fiber), nine minerals, fatty acids, saturated, monosaturated and polyunsaturated fatty acids, cholesterol and 18 amino acids.

Other new sections are also being developed for Handbook 8 and will be available soon. They include sections on lamb, veal and game; baked products; cereals, grains, and pasta; snacks and sweets, and mixed dishes.

For your copy, send a check or money order for \$11.00 to the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

— Herb Gantz

USDA's Meat and Poultry Hotline — The Third Year Report

September 30, 1988 marked the close of the third full fiscal year of operation for USDA's Meat and Poultry Hotline.

It was a year in which the Hotline received a banner 50,000 calls. Incoming calls were up 6% from the previous year.

Some 30,000 calls came in during regular business hours (10 a.m. to 4 p.m. EST). Consumers who called after hours or on weekends got taped educational messages like tips on safe food preparation, suggestions for transporting foods or information on product recalls.

What did callers want to know? Most inquiries were re-

quests for information. A low 3% were complaints about meat and poultry products.

Response time? Most questions were answered immediately by the Hotline home economists. Further research was needed in just 2% of cases.

Approximately 70% of callers asked about basic food safety. These questions concerned how long a specific meat or poultry item could be safely stored, how to minimize the risk of illness from eating raw or lightly cooked eggs or how to judge when turkey is "done."

Turkey, the subject of 25% of our inquiries, was the most asked about species. Naturally, calls about turkey were prevalent during the fall and winter months.

Salmonella food poisoning also concerned many hotline callers. News stories about salmonella generated many calls, with about 5% of our callers asking about salmonella specifically. Most asked about *how* the bacteria causes illness, while others were interested in government programs designed to control salmonella.

While consumers were the main users of the Hotline (86% of callers last year), business people, government officials and media representatives continued to rely on our staff for up-to-the-minute food safety information.

Where did they hear about the Hotline? Most first-time callers learned about the service in a newspaper, magazine or newsletter.

Repeat callers accounted for 12% of calls during FY 1988.

Consumers may call the Hotline at 1-800-535-4555.

For more information about the Hotline or the types of questions received, contact

Susan Templin, Hotline manager, at 1-202-447-9351.

— Linda Burkholder

Foil Packaging Extends Shelf-Life of Snack Foods

Opening a bag of chips only to bite into a stale chip is disappointing. But researchers at the Texas Agricultural Experiment Station are working to fight this stale taste with foil-laminated packages.

"This stale flavor is caused by exposure to light on the store shelf or in the snack machine," said Dr. C. W. Dill, who has been working to improve foil packaging for snack products. Exposure to light causes oxidation, a process in which fats are broken down. This leads to stale taste, odor, rancidity or other problems in food products.

"Our biggest concern is not so much the stale taste," Dill added, "but the fact that people are taking oxidized fat into their bodies. We don't know all the bad things that may be associated with consumption of oxidized fats."

Despite the extended shelf-life, snack food manufacturers see drawbacks associated with the bags. Snack foods have traditionally been packaged in clear bags which allow the product to sell itself. Since consumers can't see the products packaged in foil, manufacturers must change their marketing schemes.

"The foil bags are more expensive than the clear ones, but I believe the benefits outweigh the cost," Dr. Dill concluded.

For more information contact:

Dr. C. W. Dill

1-409-845-4425

— Liz Lapping

How Much Do You Know About Food and Illness?

- TRUE** Older people are more vulnerable
 FALSE to foodborne illness.

True. Aging weakens the immune system, and many older people also have medical conditions that further lower their resistance. But there are ways to fight back. Here's how.

1. Keep it safe, refrigerate.

Refrigerate food you'll use quickly. Freeze raw meat or poultry you can't use in 1-2 days. Freezer should register 0° F; refrigerator, 40° F

2. Don't thaw food on the kitchen counter.

Any bacteria in food can multiply quickly at room temperature to disease-causing levels.

3. WASH YOUR HANDS in warm soapy water before preparing food. Wash hands, utensils, cutting boards and kitchen surfaces that have contacted raw meat and poultry. This keeps the bacteria in raw meat and its juices from spreading to other food.

4. Thoroughly cook raw meat, poultry and fish.

When done, red meat looks brown, poultry juices run clear and fish flakes when raked with a fork.

5. Eggs? Cook eggs thoroughly until yolk and white are firm. Avoid recipes that call for raw or lightly-cooked eggs.

6. Make certain you're cooking food long enough in the microwave. Read the manual carefully for recommended standing times outside the oven in which food completes cooking.

7. Freeze or refrigerate leftovers promptly.

You don't have to cool food down first, but do divide large quantities into smaller portions for quick chilling. To re-use, heat to 160° F

8. MOST IMPORTANT, whether you're shopping, on a picnic, serving a meal or giving a party, never leave perishable food out of the refrigerator over 2 hours.

Other Resources

Need help opening jars and bottles? Call your nearest Arthritis Foundation for information on lots of useful gadgets.

If you're a cancer patient, call (1-800-4-CANCER) for a free copy of "Better Nutrition During Cancer Treatment" from the National Cancer Institute, Bethesda, Md.

For everyday handling problems with meat and poultry, call USDA's **Meat and Poultry Hotline** (1-800-535-4555). Washington, D.C. residents, dial 447-3333. Hours: 10-4 Eastern Time, weekdays.



How Much Do YOU Budget for Food?

If you're on a tight budget and wonder how much of your disposable income to set aside for food, the magic figure is now 9.6%. That's what typical shoppers spent on food in 1987, according to the latest USDA figures. That's down from 12.5% ten years ago and 20% forty years ago.

Look at this contrast — at the turn of the century, food costs ran up to 40% of disposable income!

Even if you add in eating out, today's food bill is still a modest 14.3% — down from 16.7% in 1977.

Some other facts:

- Sales of microwaveable foods increased 64% in 1987.
- Concern about fat content of foods has jumped 70%.
- Less salt is being used in meal preparation.
- Take-out meals and food delivered to the house are on the rise.

For more information, contact Richard Kerr, USDA-Human Nutrition Information Service, 1-301-436-8470.

Anyone for Chicken Sausage for Breakfast?

There's nothing like country sausage for breakfast, but look again. That sausage sizzling in the frying pan may soon be a lower-fat CHICKEN sausage that looks and tastes like the traditional product.

The chicken sausage, now in the testing stage, is made from white and dark meat and a small amount of fat from other meats.

The result, researchers report, is a product with acceptable texture and flavor, but lower in cost and with fat content around 15%-16% versus 35-40% for regular sausage.

Contact: Gomez Gonzales, researcher at the Texas Agricultural Experimental Station, 1-409-845-4818.

Everything You Wanted to Know About Canning

But didn't know how to ask. . . . USDA's Extension Service has published its new "Complete Guide to Home Canning." It replaces other booklets now out-of-print.

The new publication includes seven guides:

- Principles of home canning.
- Selecting, preparing and canning fruits and fruit products.
- Selecting, preparing and canning tomatoes and tomato products.
- Selecting, preparing and canning vegetables and vegetable products.
- Preparing and canning poultry, red meats and seafoods.
- Preparing and canning fermented foods and pickled vegetables.
- Preparing and canning jams and jellies.

For a single copy, send \$11.00 to the U.S. Government Printing Office, Washington, DC 20402.

Where's the Beef? In the Cake

Some day when company comes, the cake you serve may be made with "fractionated animal protein."

That's powdered beef plasma, an animal protein used to make a product lower in cholesterol. The plasma, which itself has no cholesterol, is a pale yellow fluid processed from the blood of approved food animals.

It's in the testing stage now, but it's possible that beef plasma may replace egg whites as a critical ingredient in popular snack cakes sold everywhere and in cakes sold at neighborhood bakeries. Test cakes made with it taste sweeter and are moister. More important, the plasma is nutritional and high in protein.

Beef plasma is also being used in other food products sold for export by food processors who've discovered its cost and nutritional advantages. The plasma is not presently used in any products sold in this country.

Contact: Dr. Larry Johnson, Iowa State University, 1-515-294-4365.

— Herb Gantz

